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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/525,895

10/03/2005

Giovanni Gentilcore

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EXAMINER

MCCLENDON, SANZA L

ART UNIT

PAPER NUMBER

1796

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DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/525,895	Applicant(s) GENTILCORE ET AL.	
	Examiner Sanza L. McClendon	Art Unit 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 October 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 and 22 is/are rejected.
- 7) ☒ Claim(s) 21 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 February 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>10/03/2005</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102/35 USC § 103

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-1-7, 9-15, 18-20, and 22 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Lazear (4,346,142).

Lazear sets forth a hydrophilic monomer treated microporous film and process' for making such. Said microporous film can be a polypropylene dry-stretched or solvent-stretched film, wherein polypropylene reads on claims 13 and 22 —see column 6, lines 4, 30, 40-43, and 55. Said process involves impregnating said microporous film with a solution of vaporized of the hydrophilic monomer dissolved in a solvent to form a pad bath and using said pad bath in a squeeze roll method wherein the film is guided through the bath and squeezed between a pair two squeeze rolls where pressure is exerted such that the monomer is impregnated within the film--see column 16, lines 20-24 and 38-44, and columns 13, line 65 to column 14, line 5. The hydrophilic monomers taught in the invention are organic hydrocarbon compounds having from 2 to 18 carbon atoms having at least one ethylenically unsaturated double bond and having at least one polar group such as carboxy, sulfa, sulfone, hydroxyl, ammonia, amino, and phosphine--see column 13, lines 25-28. Said monomers can be

Art Unit: 1796

controllably polymerized and/or copolymerized to be chemically fixed to the surface of the film to render the surface hydrophilic while controlling within certain limits to avoid plugging the pores to all control over the water permeability and electrical resistance of the film via ionizing radiation in an inert atmosphere—see column 13, lines 2-10 and column 18, lines 66-68 to column 19, lines 1-2. Examples of such monomers can be found in column 13, lines 30-52. This are deemed to read on claims 2-7, 9-12 and 18-20. Lazear does not expressly teach that the first vinyl monomer comprises an ethylenically unsaturated carboxylic monomer or an ester thereof, such as acrylic acid or an ester thereof or that the second monomer is selected from the groups found in claim 12. However the examiner deems that the reference provides enough guidance such that it is within the skill level of an ordinarily skilled artisan to experiment with different combinations of the polar groups via the teaching of copolymerization. The motivation would have been a reasonable expectation of either improving on the properties outlined in the teaching or to obtain the same success as the provided in the teachings of the reference in absence of evidence to the contrary and/or reasons of unexpected results. Said microporous films produced in this manner can be used as a battery separator—see column 14, line 37. Thus the article of claims 1-3, 6, and 9-14 are reading in the reference. Regarding the limitation in claims 1, 4-5, and 7 requiring the vinyl units in each chain, Lazear teaches the monomer amount chemically fixed to the film should be controlled to be not greater than about 10%, generally from about 0.1 to about 10%, most preferably from about 1 to about 2.0% (e.g., 1.5%) and since the Patent and Trademark Office is not equipped to conduct experimentation in order to determine whether Applicant's composition differs and, if so, to what extent, from the discussed reference. Therefore, with the showing of the reference, the burden of establishing non-obviousness by objective evidence is shifted to the Applicants. Applicant is reminded that the courts have upheld that in product-by-process claims and that “even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of the product does not depend on the method of production. Therefore, if the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process—see *In re Thorpe*, 227 USPQ 967 (Fed. Cir.1985). Per column 19, lines 6-19, Lazear describes a electrochemical device as found in claim 14 using the above described microporous film.

4. Claims 1, 5, 7-11, and 13-14 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over McLoughlin et al (6,537,695, effective filing date 6-8-1998).

McLoughlin et al teaches an electrochemical device, such as a separator, using non-woven fabrics, which appear to be microporous, comprising substantially unbound fibers and vinyl monomers which are capable of reacting with an acid or base to form a salt directly or indirectly by a reaction involving exposure to UV radiation while impregnating with a solution of vinyl monomer copolymerizable with the surface of the fibers--see abstract and column 5, lines 38-41. Said fibers are preferably polypropylene—see column 4, line 47. Said vinyl monomers can be found in column 6, lines 6-15, wherein it is disclosed that acrylic acid, methacrylic acid and their esters are preferred--see column 6, lines 10-12. Said irradiation is preferably done in an inert atmosphere--see column 7, lines 31-43. Regarding the limitation in claims 1, 4-5, and 7 requiring the vinyl units in each chain, however McLoughlin et al teaches a method that reads on the instant method and since the Patent and Trademark Office is not equipped to conduct experimentation in order to determine whether Applicant's composition differs and, if so, to what extent, from the discussed reference. Therefore, with the showing of the reference, the burden of establishing non-obviousness by objective evidence is shifted to the Applicants.

.Applicant is reminded that the courts have upheld that in product-by-process claims and that "even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of the product does not depend on the method of production. Therefore, if the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process—see *In re Thorpe*, 227 USPQ 967 (Fed. Cir.1985). Per column 19, lines 6-19, McLoughlin et al describes an electrochemical device as found in claim 14 using the above described microporous film—see column 10, lines 60-67 and column 6, lines 32-42.

Art Unit: 1796

5. Claims 1-8, 10-13, 15-16, 18-20 and 22 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Sugo et al (5,648,400).

6. Sugo et al sets forth in example 1, and 4-6 a method comprising impregnating a non-woven fabric with a solution comprising a mixture of acrylic acid or an acrylic acid ester and trimethylvinylbenzyl ammonium salt or a sodium salt of styrenesulfonate, which is a type of vinyl sulphonic acid salt and exposing it to radiation. Although the examples teach electron beam irradiation, Sugo et al teaches that ultraviolet is acceptable--see column 2, lines 5-7. This teaching is deemed to read on claims 1-3, 6, 8, 10-13, 15-20 and 22. Regarding the limitation in claims 1, 4-5, and 7 requiring the vinyl units in each chain, Sugo et al teaches a substrate that appears to be modified in the same manner as instantly claimed and since the Patent and Trademark Office is not equipped to conduct experimentation in order to determine whether Applicant's composition differs and, if so, to what extent, from the discussed reference. Therefore, with the showing of the reference, the burden of establishing non-obviousness by objective evidence is shifted to the Applicants.

Allowable Subject Matter

7. Claim 21 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. The following is a statement of reasons for the indication of allowable subject matter: the prior art made of record fails to teach such a monomer ratio as found in claim 21.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sanza L. McClendon whose telephone number is (571) 272-1074. The examiner can normally be reached on Monday through Friday 7:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on (571) 272-1078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Sanza L McClendon/
Primary Examiner,
Art Unit 1796

SMc